

REMARKS

In view of the above amendments and the following remarks, reconsideration of the rejections contained in the Office Action of August 20, 2008 is respectfully requested.

In order to make necessary editorial corrections, the entire specification and abstract have been reviewed and revised. As the revisions are quite extensive, the amendments to the specification and abstract have been incorporated into the attached substitute specification and abstract. For the Examiner's benefit, a marked-up copy of the specification indicating the changes made thereto is also enclosed. No new matter has been added by the revisions. Entry of the substitute specification is thus respectfully requested.

In items 1 and 2 spanning pages 2 and 3 of the Office Action, the Examiner provisionally rejected original claims 1 and 5 on the grounds of non-statutory obviousness-type double patenting as being unpatentable over several of the claims of co-pending U.S. Application Serial No. 10/498,042. However, all of the original claims have now been cancelled and replaced with a set of new claims 9-12 as noted above. It is submitted that the new claims are clearly distinguishable from the claims of the co-pending '042 application (which were also amended during prosecution), and thus the Examiner's provisional double patenting rejections have been overcome.

The Examiner rejected all of original pending claims 1-8 as being unpatentable over the Nogami reference (USP 6,693,036) in view of the Bruns reference (USP 5,149,405). However, as noted above, the original claims have now been cancelled and replaced with new claims 9-12. For the reasons discussed below, it is respectfully submitted that each of independent claims 9-12 is clearly patentable over the prior art of record.

New independent claims 9 and 10 are both directed to an electrolytic processing apparatus. Each of these independent apparatus claims comprises an ion exchanger located in at least one of (i) a first space between a workpiece and a processing electrode, and (ii) a second space between the workpiece and the feeding electrode, and the ion exchanger is operable to *promote dissociation of molecules supplied into at least one of the first space and the second space in which the ion exchanger is located* (see page 23, lines 12-32 of the original

specification). In addition, a numerical controller is provided for effecting numerical control of the relative movement between the workpiece to be held by the holder and the processing electrode so as to control electrolytic processing of the workpiece. The numerical controller is programmed to effect the numerical control by measuring the form of the workpiece before processing, inputting coordinate data based on the measured form and based on the intended form of the workpiece, and determining a processing amount corresponding to the coordinate difference between the measured form and the intended form (see page 27, line 3 thru page 28, line 2 of the original specification). As a result, the electrolytic processing can produce the intended form for the processed workpiece with a high degree of accuracy (see page 5, lines 2-9 of the original specification).

As noted above, the Examiner asserted that the combination of the Nogami reference and the Bruns reference teaches all of the features recited in original claims 1-8. However, as explained below, it is submitted that the combination of references applied by the Examiner does not teach or even suggest either (1) the ion exchanger or (2) the numerical controller as recited in each of new independent claims 9 and 10.

On page 4 of the Office Action, the Examiner asserted that the Nogami reference teaches in ion exchanger 24 which is formed of a material “capable of absorbing the electrolyte made of a solvent and a solute dissociated into ions.” In this regard, it is noted that reference number 24 of the Nogami reference identifies a scrub member which rotates so as to *mechanically remove* portions of film 108 on the metal film 107 (see column 16, line 53-59 of the Nogami reference). Meanwhile, an electrolyte EL made of a solvent and a solute dissociated into ions is supplied to the metal film exposed by the *mechanical removal* performed by the scrub member 24 (see column 11, lines 59-64; and column 17, lines 3-15 of the Nogami reference). The portions of the material mechanically removed are eluted into the electrolyte EL by electrolytic action. However, the scrub member 24 does not constitute an ion exchanger arranged as recited in independent claims 9 and 10 and operable to *promote dissociation of molecules of the fluid*. In fact, neither the Nogami reference nor the Bruns reference teaches an ion exchanger of this type.

On page 5 of the Office Action, the Examiner acknowledged that the Nogami also fails to disclose a numerical controller. However, the Examiner asserted that the Burns reference teaches a numerical controller used to control relative movement. However, as clearly taught in column 8, lines 22-27 of the Burns reference, the numerical controller controls the various operations of cross-slides 42a and 42b, the power supply 56, and the electrolyte channeling means 38 in a *predetermined* manner, rather than based on measured data of the workpiece. In other words, the Burns reference does not teach or even suggest a numerical controller that is programmed to effect numerical control by measuring the form of a workpiece before processing, inputting coordinate data based on the measured form and based on an intended form of the workpiece, and then determining a processing amount corresponding to the coordinate difference between the measured form and the intended for the workpiece, as recited in independent claims 9 and 10.

As explained above, the Nogami reference and the Burns reference do not teach or even suggest an ion exchanger or a numerical controller as now recited in new independent claims 9 and 10. Furthermore, the remaining prior art of record also does not teach or suggest these features. Therefore, it is respectfully submitted that new independent claims 9 and 10 are clearly patentable over the prior art of record.

New independent claims 11 and 12 are both directed to electrolytic processing methods. In particular, each of these new method claims includes supplying a fluid into one of a first space and a second space in which an ion exchanger is located such that the ion exchanger *promotes dissociation of molecules of the fluid*. In addition, a workpiece and a processing electrode are moved relative to each other while numerically controlling the relative movement by measuring the form of the work piece before processing, inputting coordinate data based on the measured form and based on an intended form of the workpiece, and determining a processing amount corresponding to the coordinate difference between the measured form and the intended form. In other words, each of independent claims 11 and 12 recite limitations corresponding to the distinguishing limitations recited in independent claims 9 and 10 and discussed above. Therefore, for the reasons discussed above with respect to independent claims 9 and 10, it is

respectfully submitted that new independent claims 11 and 12 are also clearly patentable over the prior art of record.

In view of the above amendments and remarks, it is submitted that the present application is now in condition for allowance. However, if the Examiner should have any comments or suggestions to help speed the prosecution of this application, the Examiner is requested to contact the Applicant's undersigned representative.

Respectfully submitted,

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